

ZIP Code Tabulation Areas For Census 2000

State Data Center Steering Committee Meeting

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Geography Division**

U S C E N S U S B U R E A U

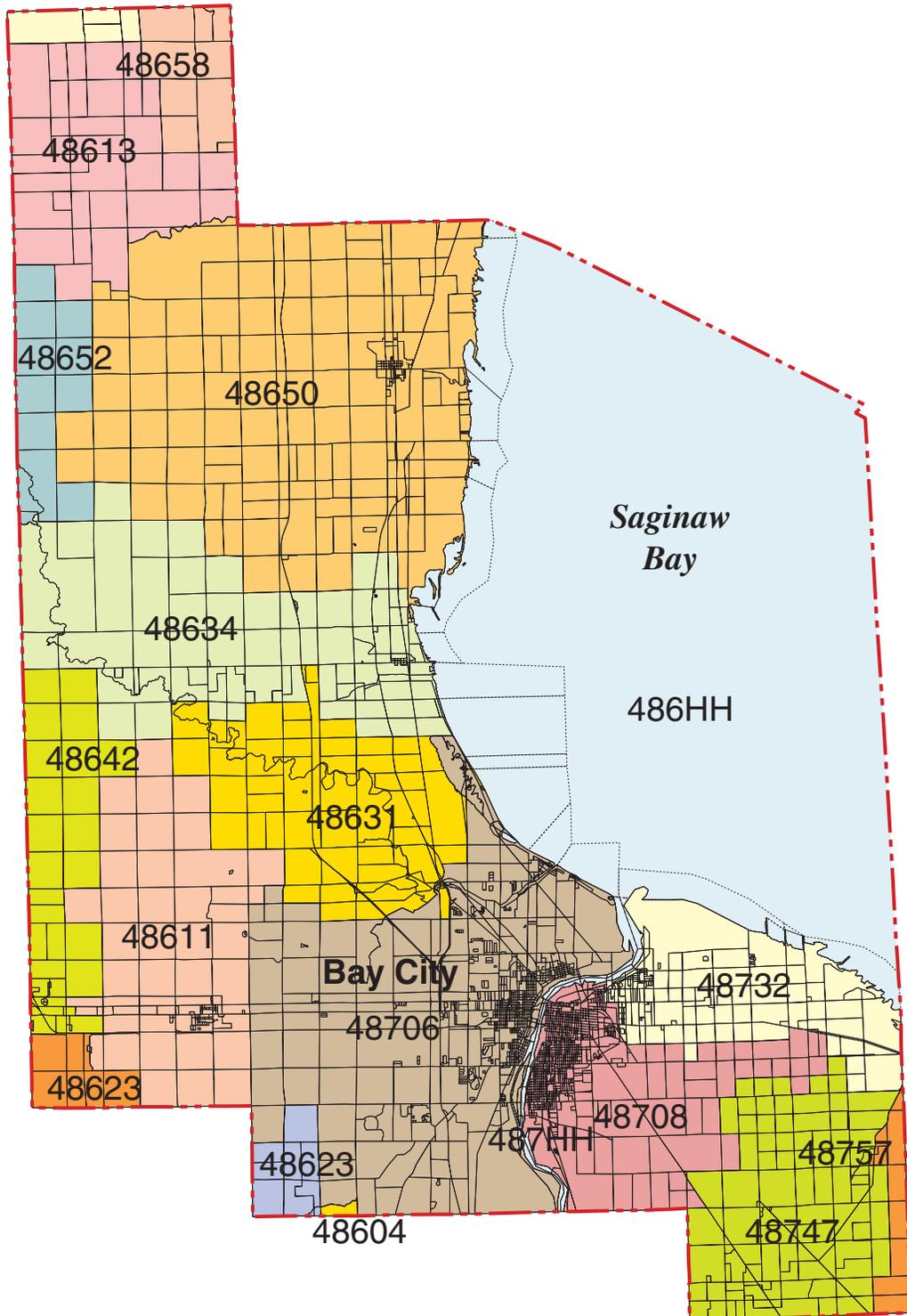
Helping You Make Informed Decisions

ZIP Code Tabulations Areas (ZCTAsTM)

**.... are generalized area representations
of United States Postal Service ZIP
Codes developed by the U.S. Census
Bureau for tabulating statistical data.**

ZCTATM is a trademark of the U.S. Census Bureau

Census 2000 ZIP Code Tabulation Areas Bay County Michigan



ZCTAs

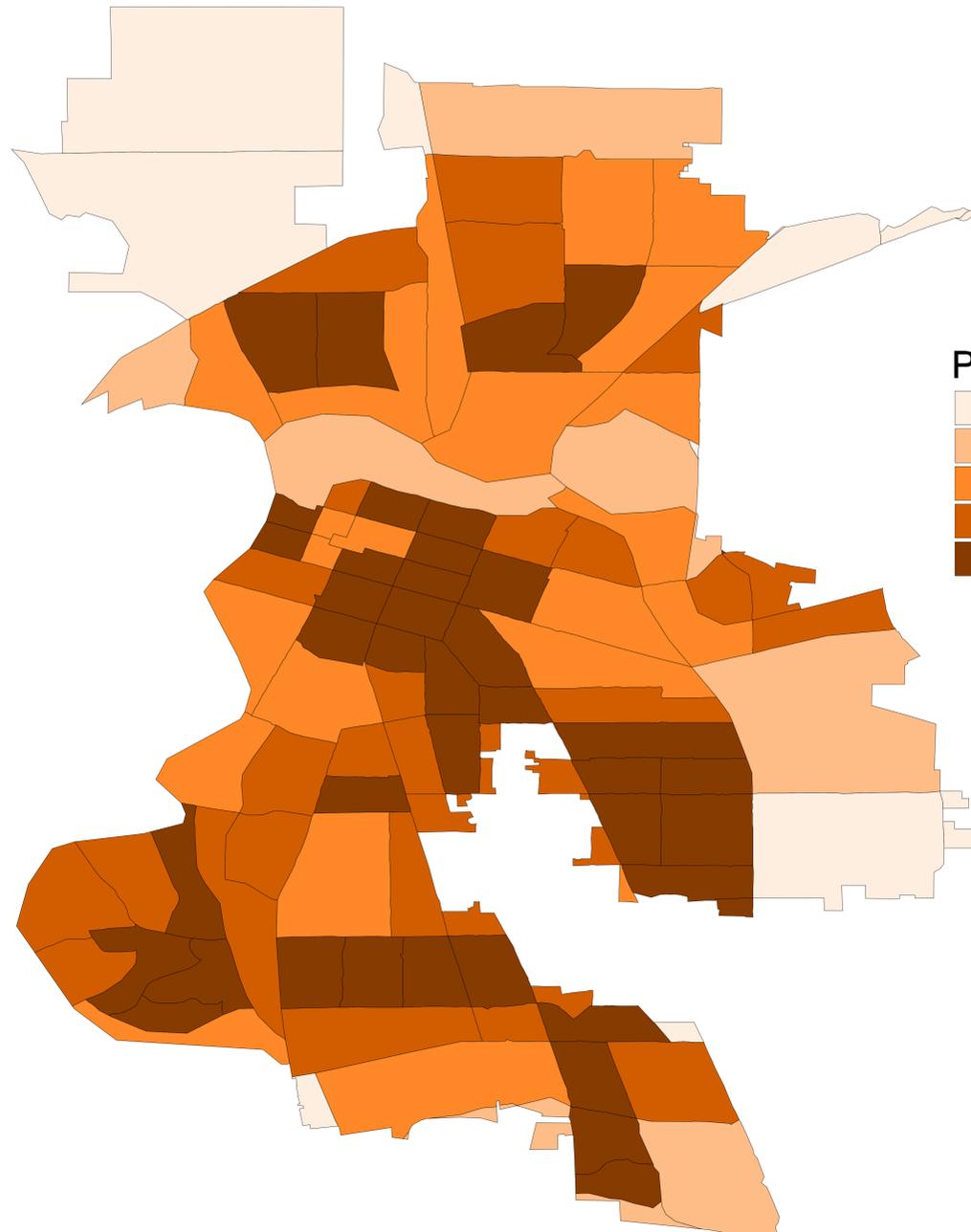
.... are distinct from other area representations of ZIP Codes because they reflect address locations and ZIP Codes collected or verified during Census 2000 field operations.

ZCTAs

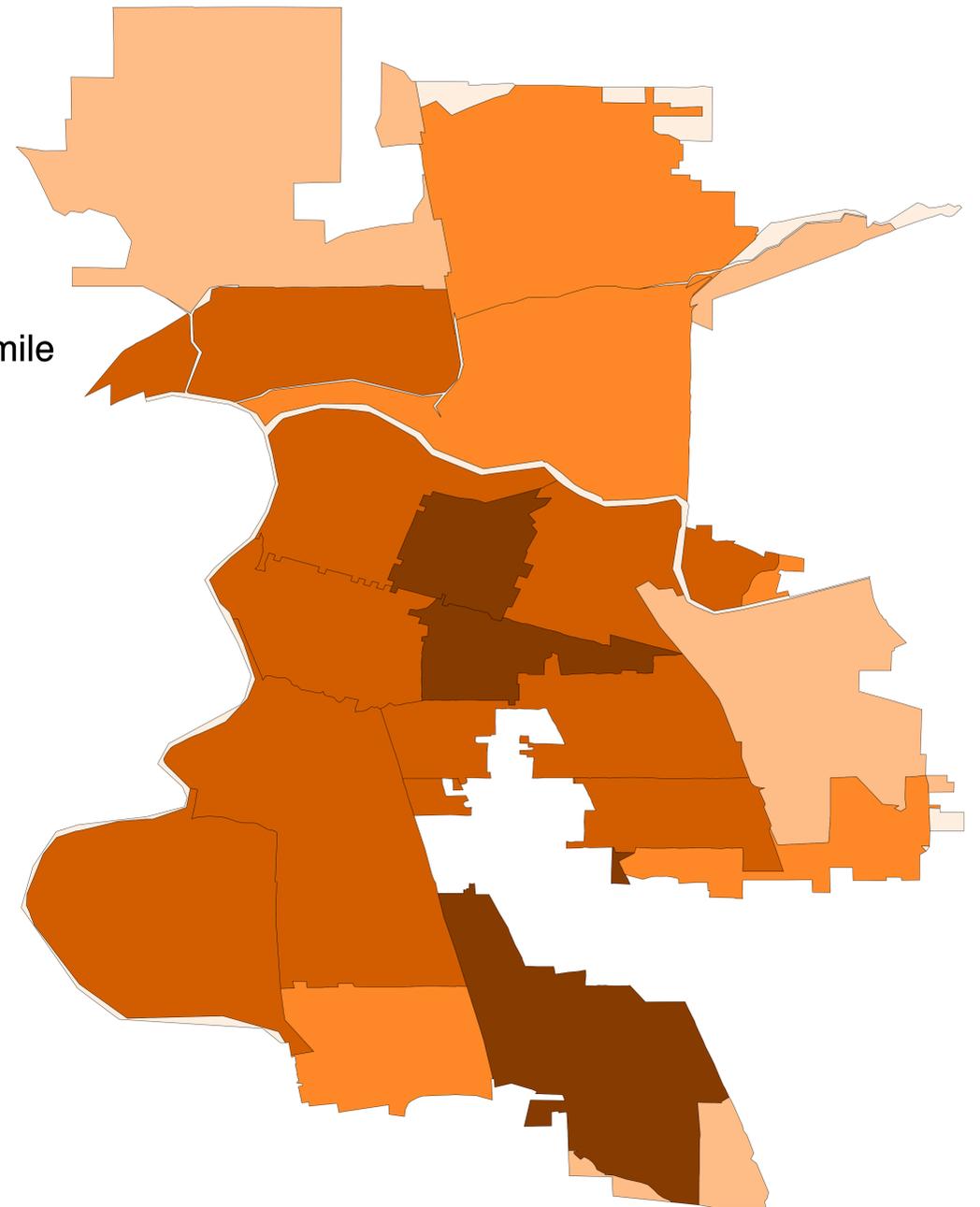
.... are distinct from statistical areas such as census tracts because they are not stable over time and they are computer delineated using addresses rather than formally delineated before the census.

Census 2000 Dress Rehearsal Population Density Sacramento, CA Dress Rehearsal Site Comparison of Statistical Entities

Census Tracts



ZIP Code Tabulation Areas (ZCTA)



Population / square mile

- < 602
- 602 - 1848
- 1849 - 4386
- 4387 - 6454
- > 6454



Map Prepared by
TIGER Operations Branch
Geography Division
U.S. Bureau of the Census
1999

Comparisons

Census Tracts

- Locally defined
- Generally stable/comparable over time
- Ideally 1500 housing units
- Boundaries follow features
- Nest within counties/county county equivalents

ZCTAs

- Defined by addresses and extension algorithms
- Boundaries and codes change over time
- Variable size
- Boundaries follow tabulation block boundaries
- Cross counties and states

Introducing ZCTAs!

- **New for Census 2000**
- **Change in methodology and content from 1990 Census**
- **Product and trademark of the US Census Bureau**

ZCTA Time Line

- 1995 Begin building Prototype Process**
- 1998 Build ZCTAs for dress rehearsal**
- 1999 ZCTAs go public**
- 2000 Census 2000 ZCTA Delineation**
- 2001 Complete Census 2000 ZCTAs**
- 2001 Census 2000 ZCTA products**

Requirements for Building ZCTAs

- Assign a ZCTA code to all areas
- Follow census block boundaries
- Assign a single ZCTA code to each block
- Use address ZIP Codes from MAF
- Match true ZIP Codes as closely as possible

ZCTA Codes

- **Represent the majority ZIP Code of the addresses in a census block**
- **Represent a USPS 5- or 3-digit ZIP Code**
- **Exclude unique, single delivery point ZIP Codes for firms and organizations**
- **Include dedicated P.O. Box ZIP Codes
In rural areas**

ZCTA Codes

- **5-digit numeric ZCTA codes**
22301 (land & internal water)
- **Generic 3-digit ZCTA codes**
223XX (land & internal water)
223HH (water along margins of
several land ZCTAs)

ZCTA Delineation Steps

- **Update the Master Address File (MAF)**
- **Calculate ZCTA as majority ZIP Code**
- **Extend coverage to unassigned areas**
- **Interactive extension, review, & update**
- **State wide review and update**
- **Tabulation block alignment**
- **Generate products & match statistics**

Challenges for Delineating ZCTAs

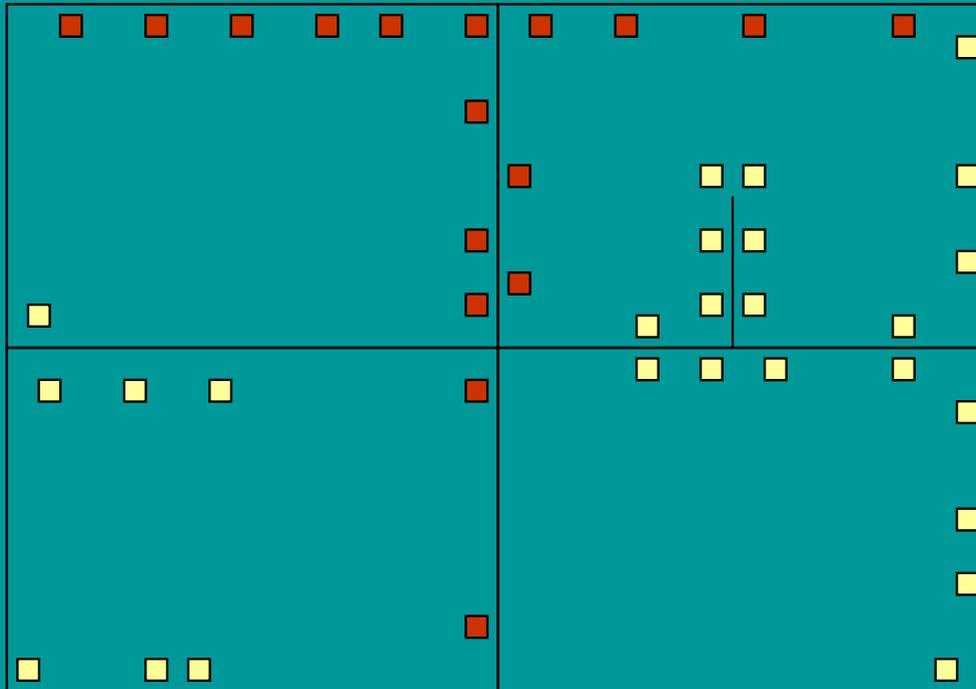
- **Addresses with incorrect or out-dated ZIP Codes**
- **Blocks split between ZIP Codes**
- **Areas with no addresses or ZIP Codes**

ZIP Code Delivery Routes

ZIP Codes follow the street network

■ Addresses with ZIP Code A

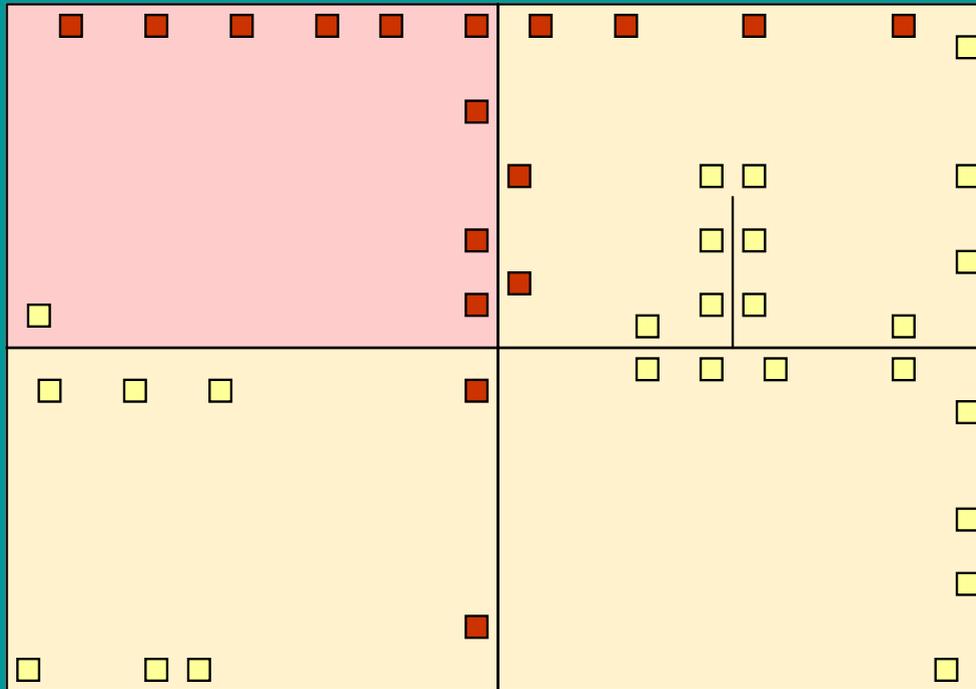
■ Addresses with ZIP Code B



ZCTAs Reflect Majority ZIP

Determine majority ZIP Code of available addresses

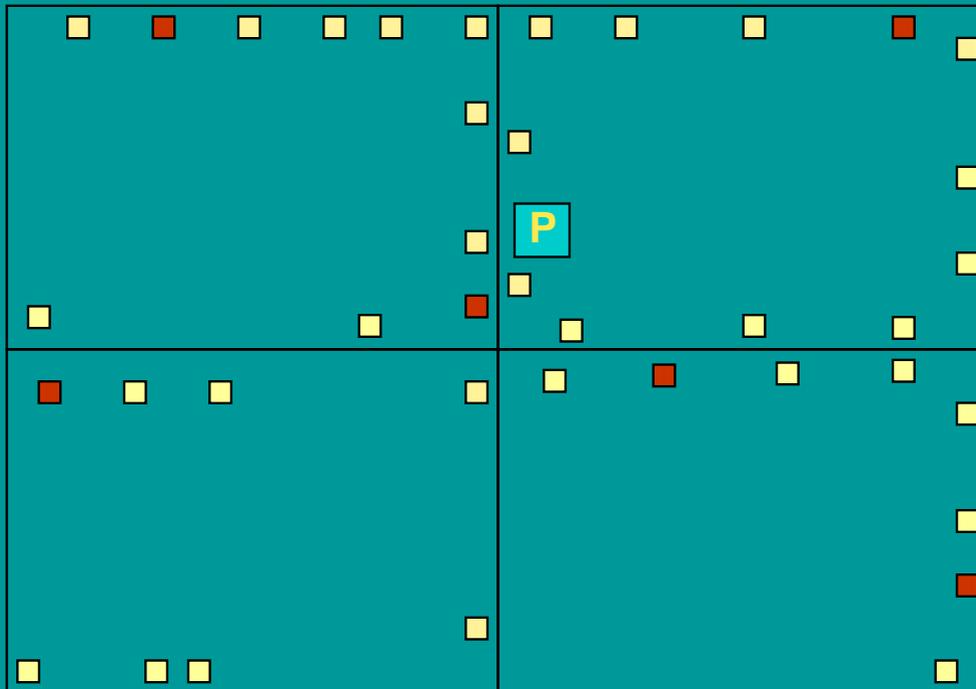
- ZCTA representing ZIP Code A
- ZCTA representing ZIP Code B



P.O. Box ZIP Codes

Addresses with P.O. Box ZIP Codes scattered among addresses with city style delivery

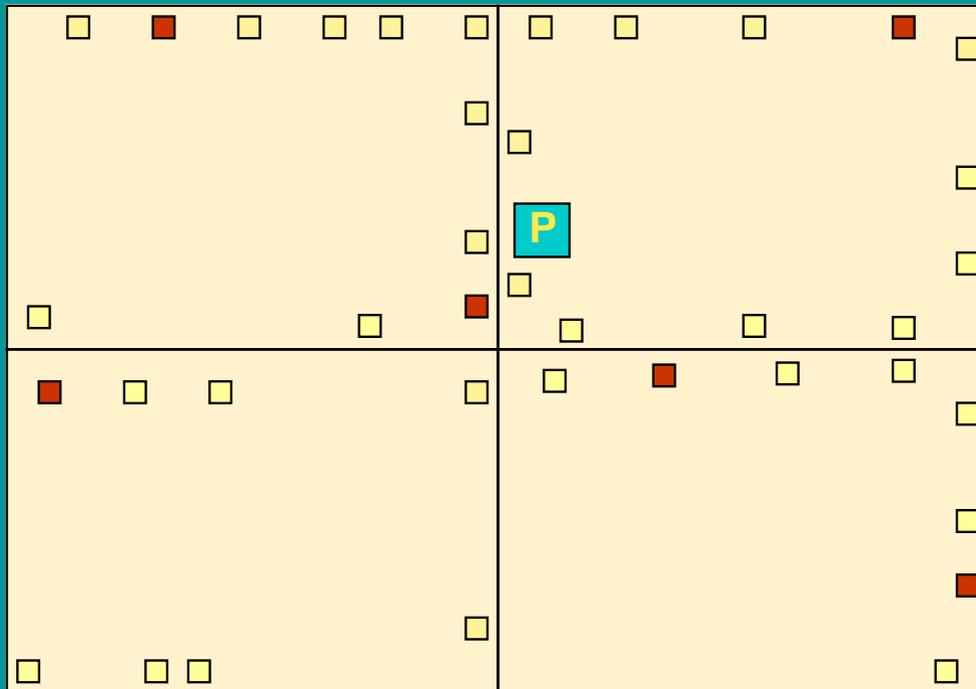
- Addresses with ZIP Code A
- Addresses with P.O. Box ZIP Code B



P.O. Box ZIP Codes

P.O. Box ZIP Codes in areas with city style delivery are excluded from becoming ZCTAs.

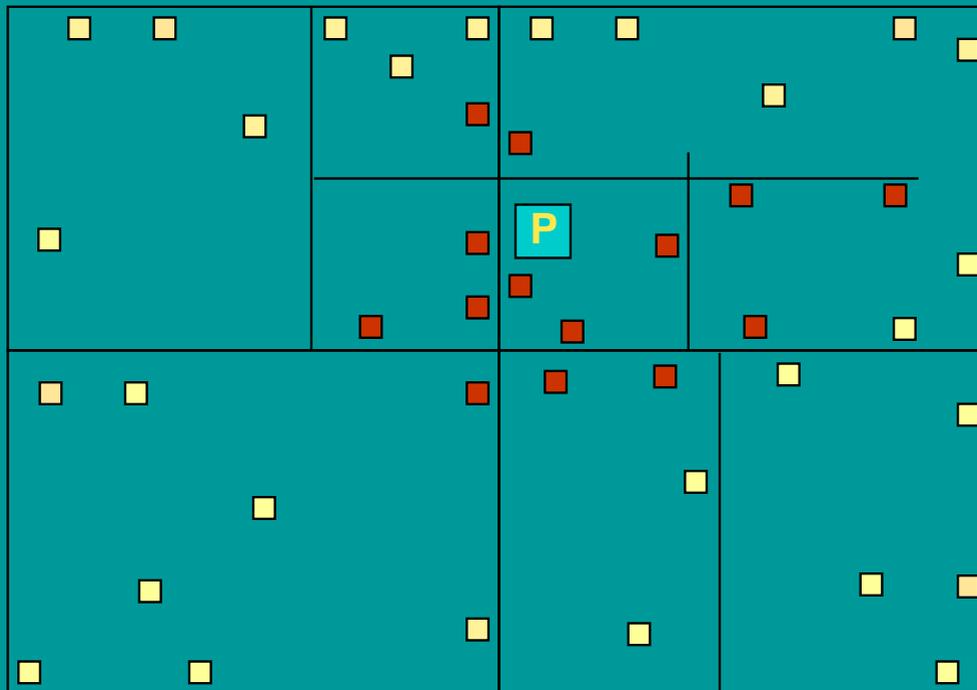
- ZCTA representing ZIP Code A
- ☒ P.O. Box ZIP Code B is excluded



P.O. Box ZIP Codes

Addresses with P.O. Box ZIP Codes clustered around post office in rural delivery areas

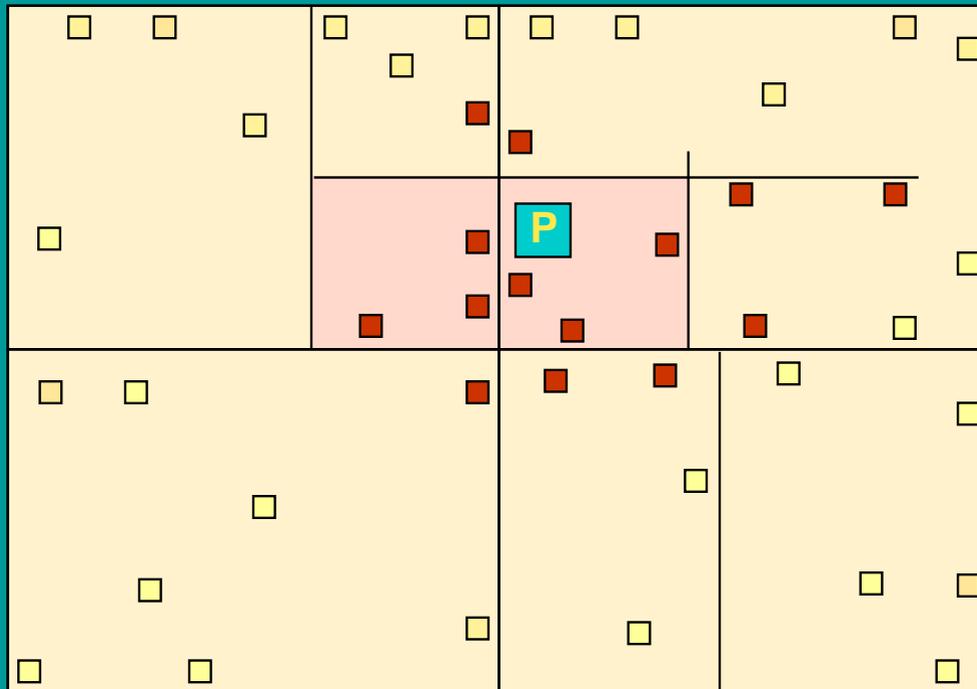
- Addresses with ZIP Code A
- Addresses with P.O. Box ZIP Code B



P.O. Box ZCTA

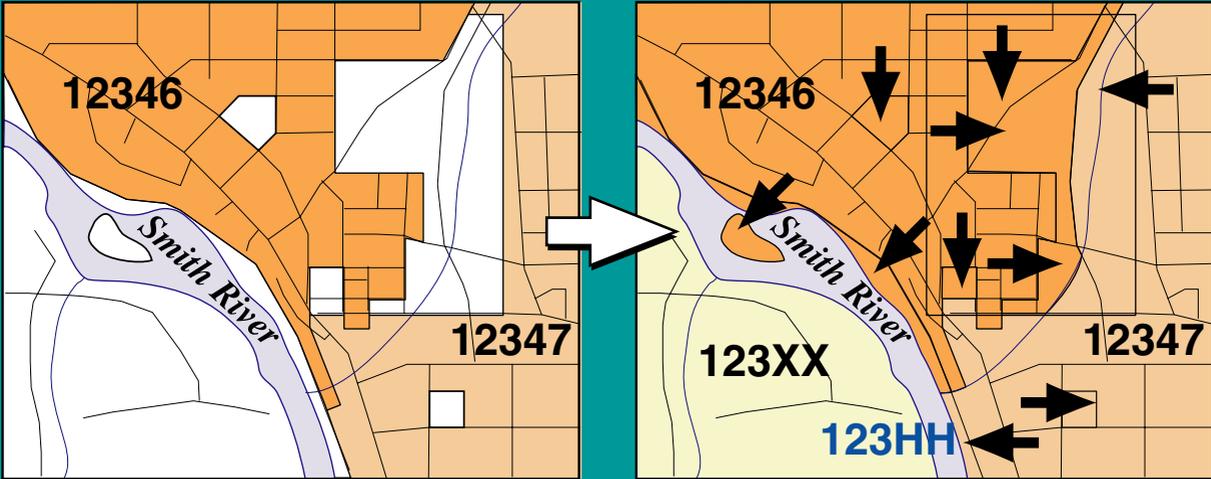
P.O. Box ZIP Codes in rural delivery areas may become ZCTAs

- ZCTA representing ZIP Code A
- ZCTA representing P.O. Box ZIP Code B



Unassigned Areas

Polygon Expansion assigns ZCTAs to Unassigned polygons

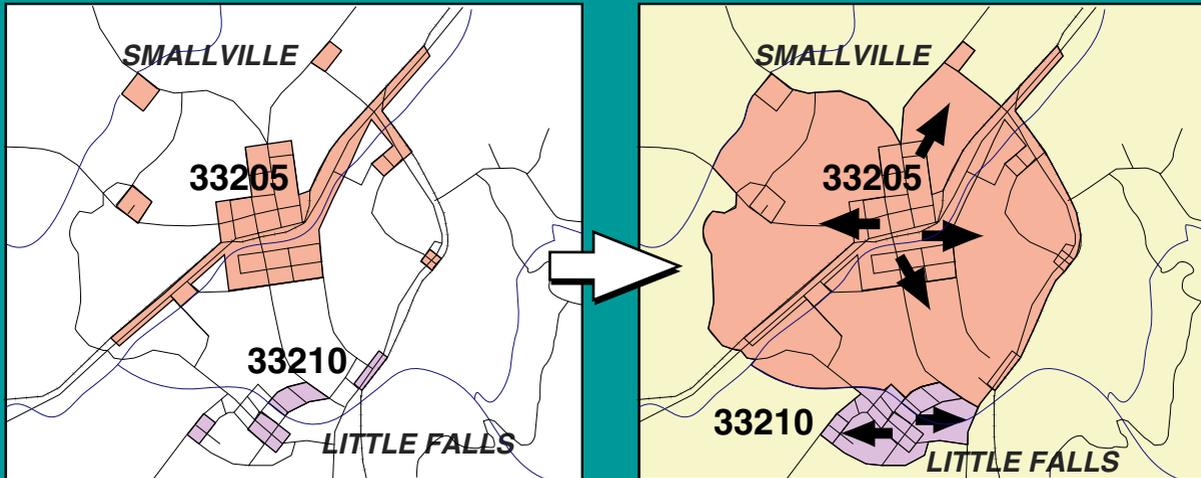


Rural Fragments

- **Validate ZCTA Code in fragments**
- **Add blocks along road network to bridge fragments**
- **Respect natural and cultural boundaries**
- **Fill in small enclaves and “cavities”**
- **Leave remaining area as a generic ZCTA**

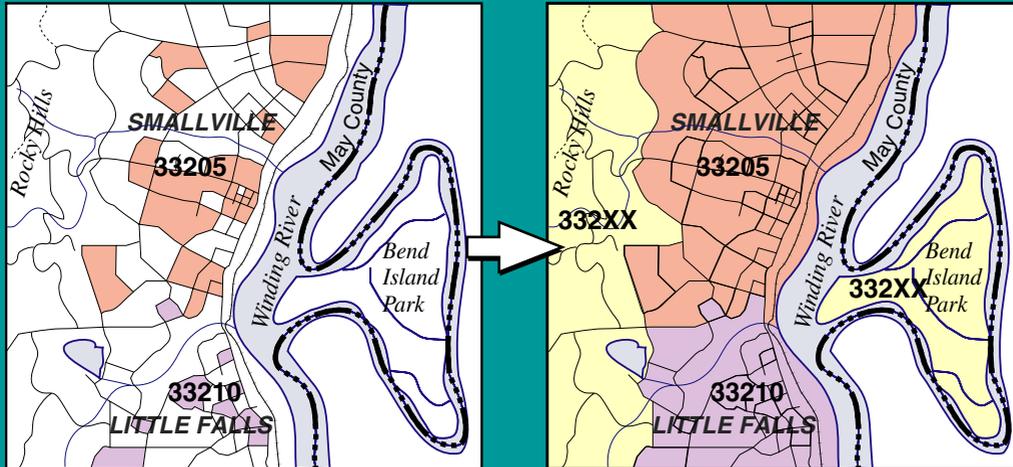
Unassigned Areas

Extending and Merging Fragments of Rural Five-Digit ZCTAs

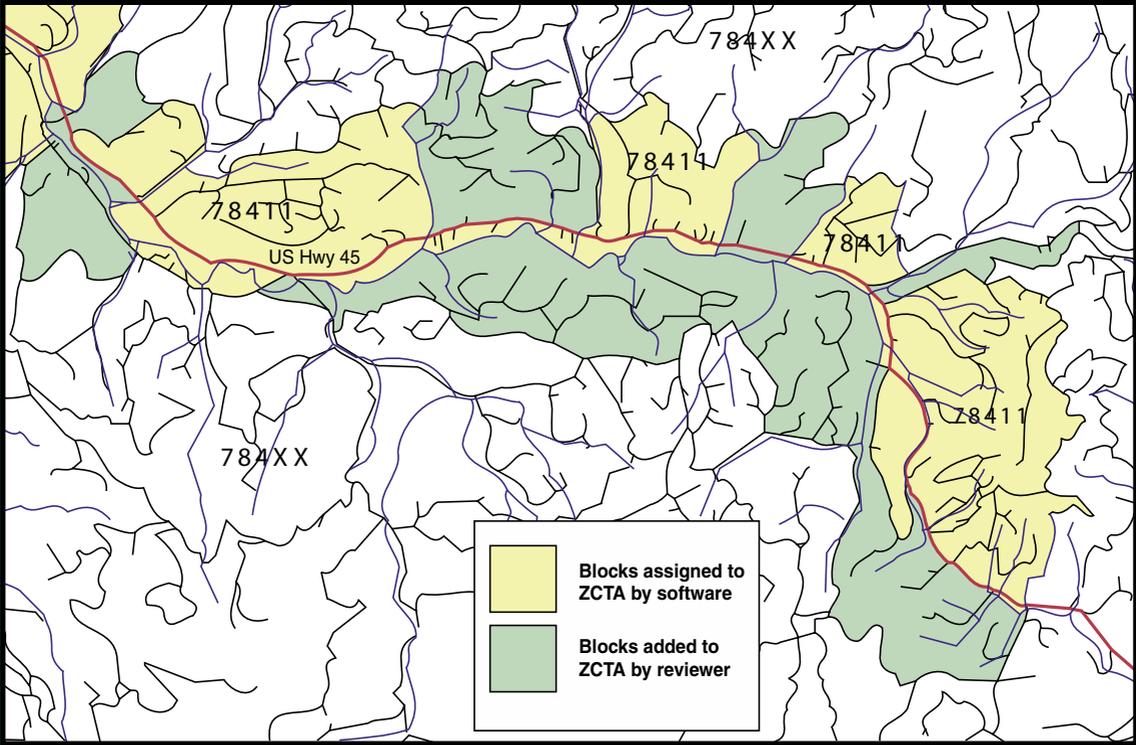


Unassigned Areas

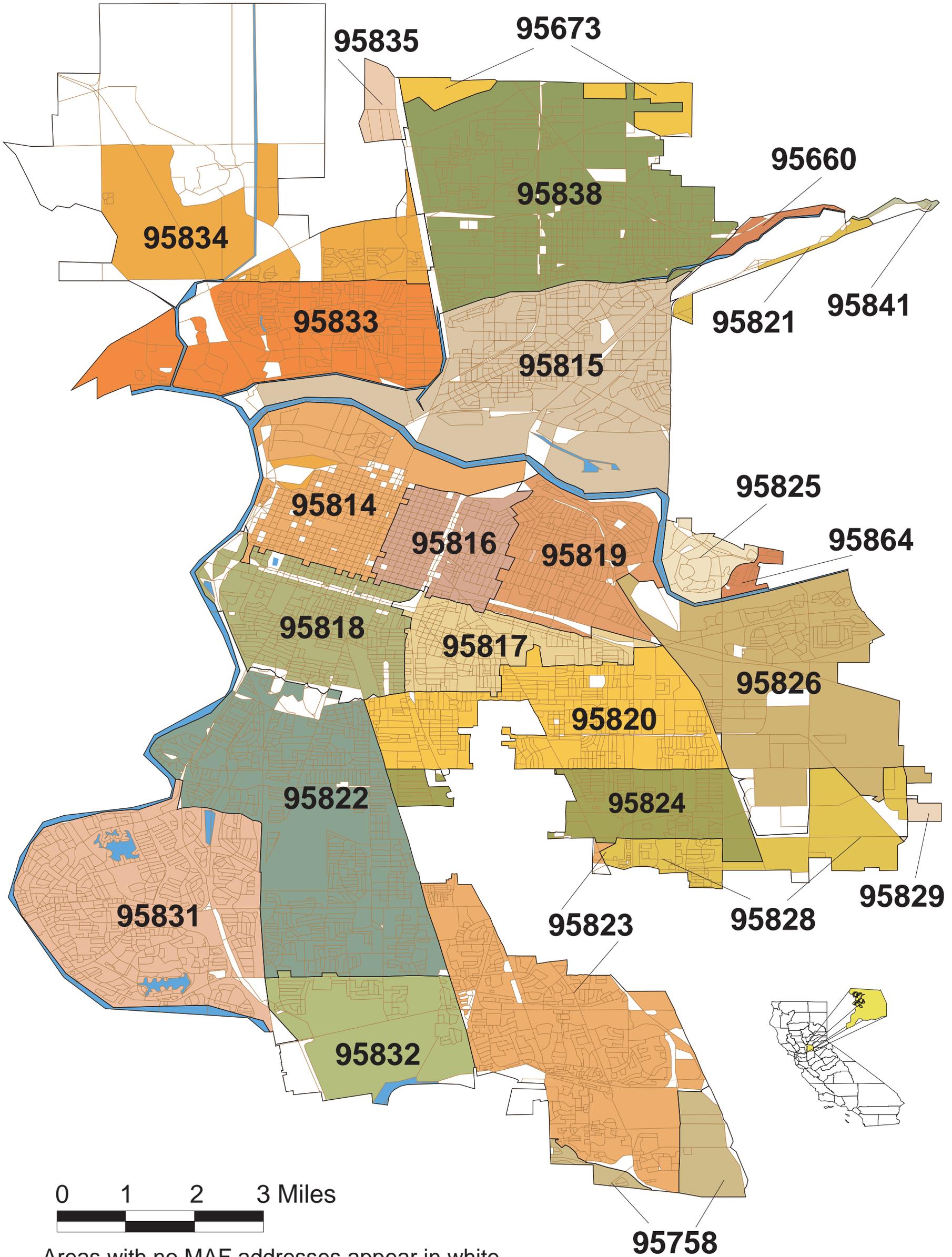
Extending and Merging Fragments of Rural Five-Digit ZCTAs



Connecting ZCTA Fragments



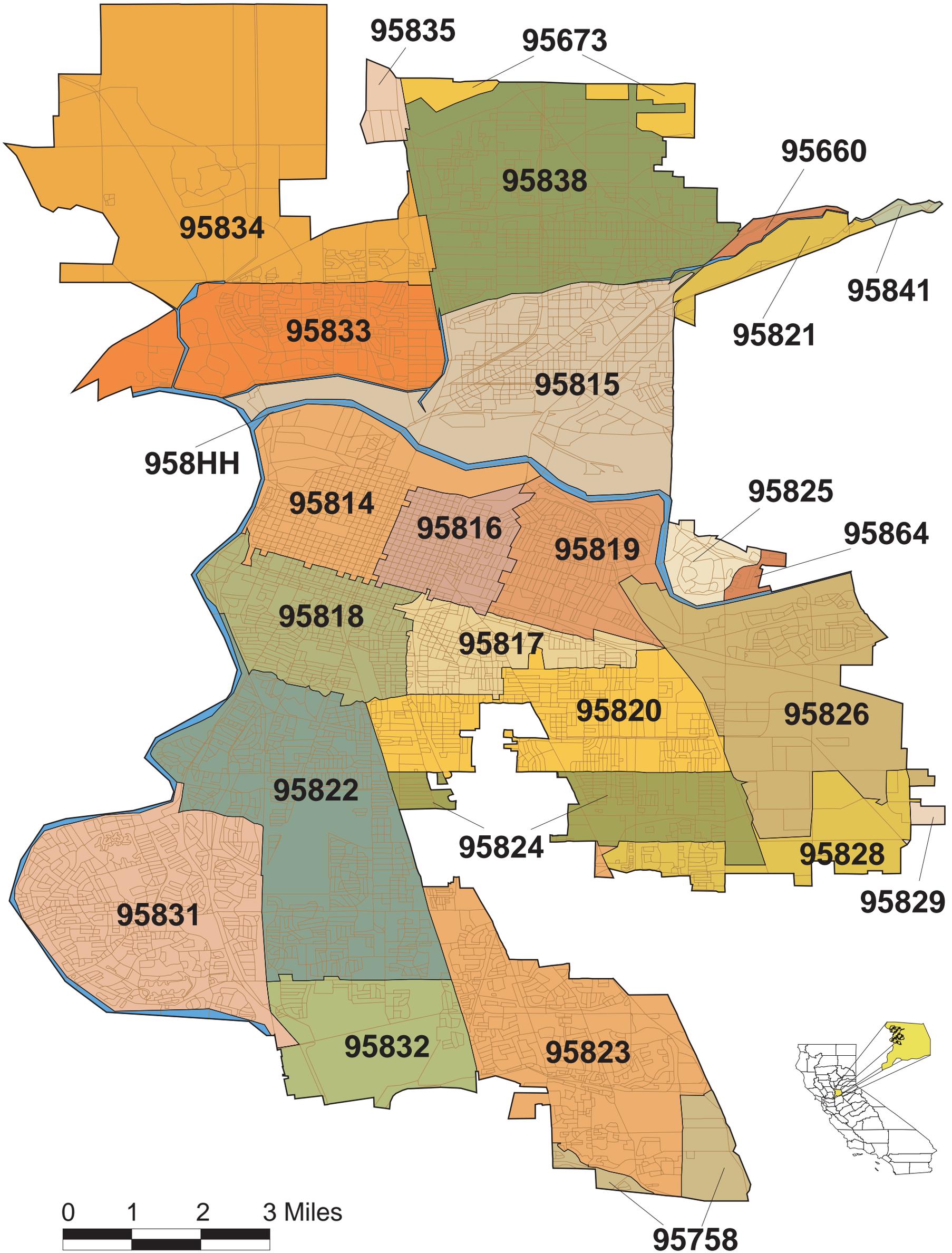
Initial ZIP Code Tabulation Areas Sacramento, CA Dress Rehearsal Area



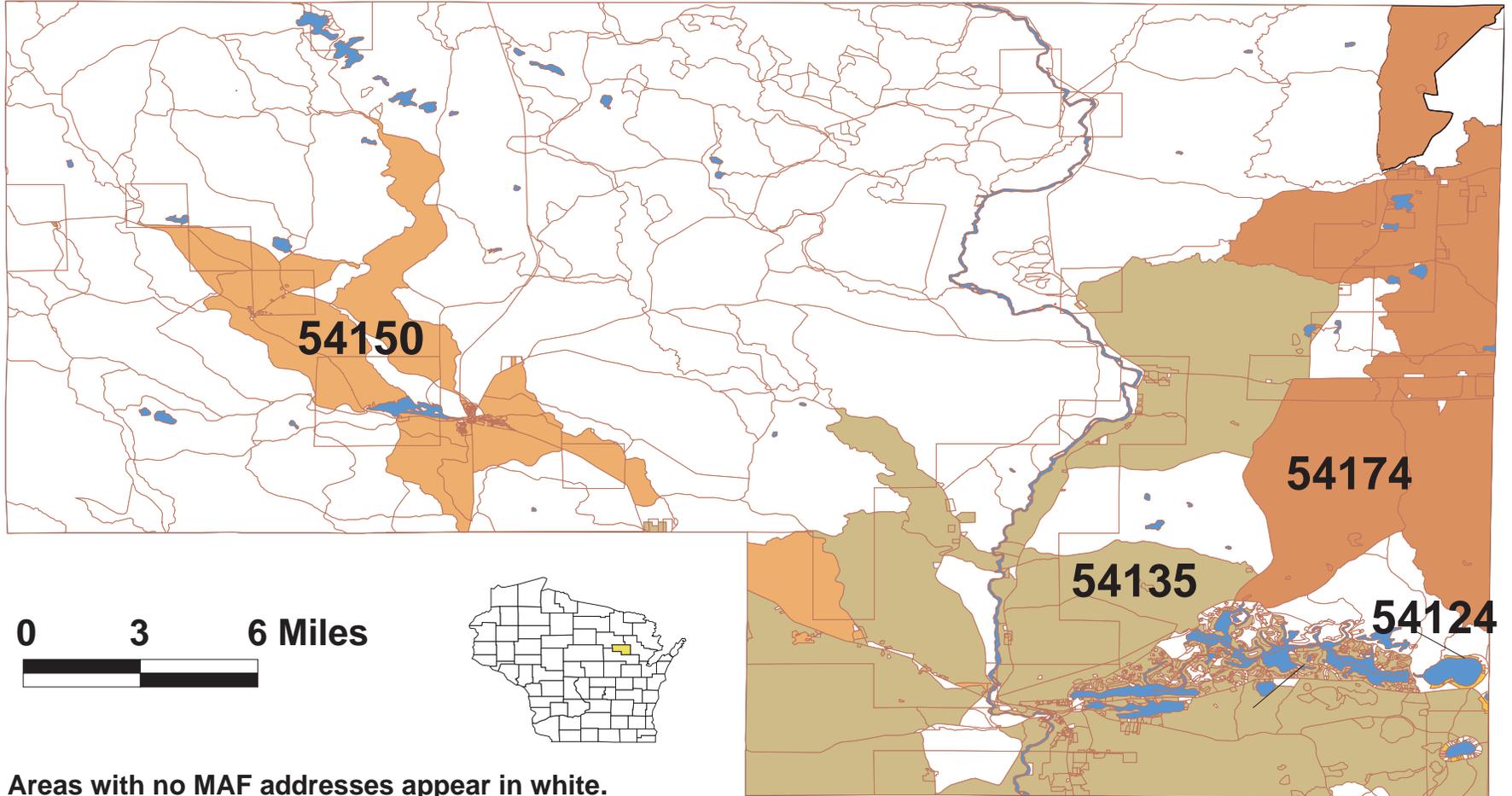
0 1 2 3 Miles

Areas with no MAF addresses appear in white.

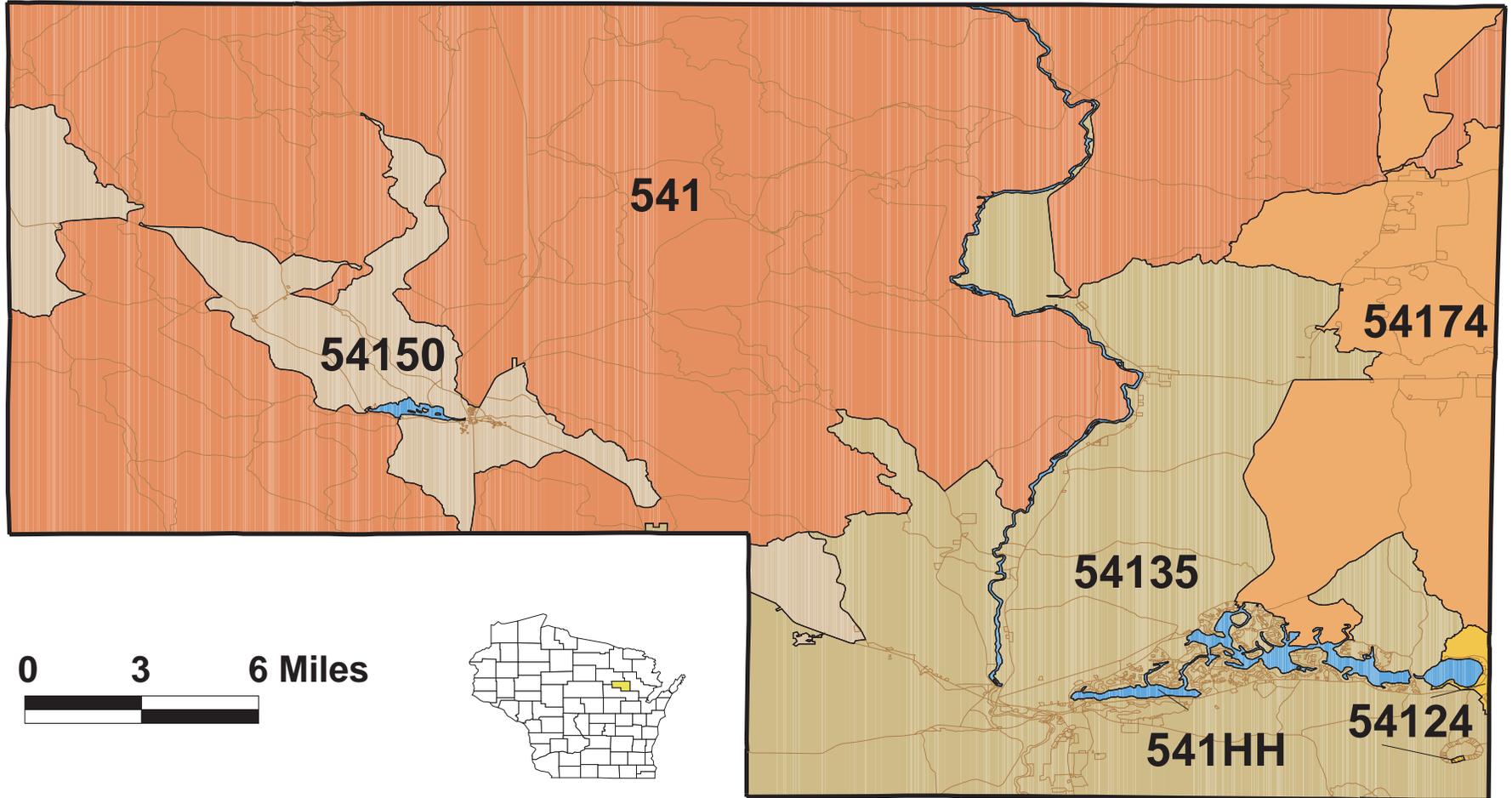
ZIP Code Tabulation Areas Sacramento, CA Dress Rehearsal Area



Initial ZIP Code Tabulation Areas Menominee, WI Dress Rehearsal Area



ZIP Code Tabulation Areas Menominee, WI Dress Rehearsal Area



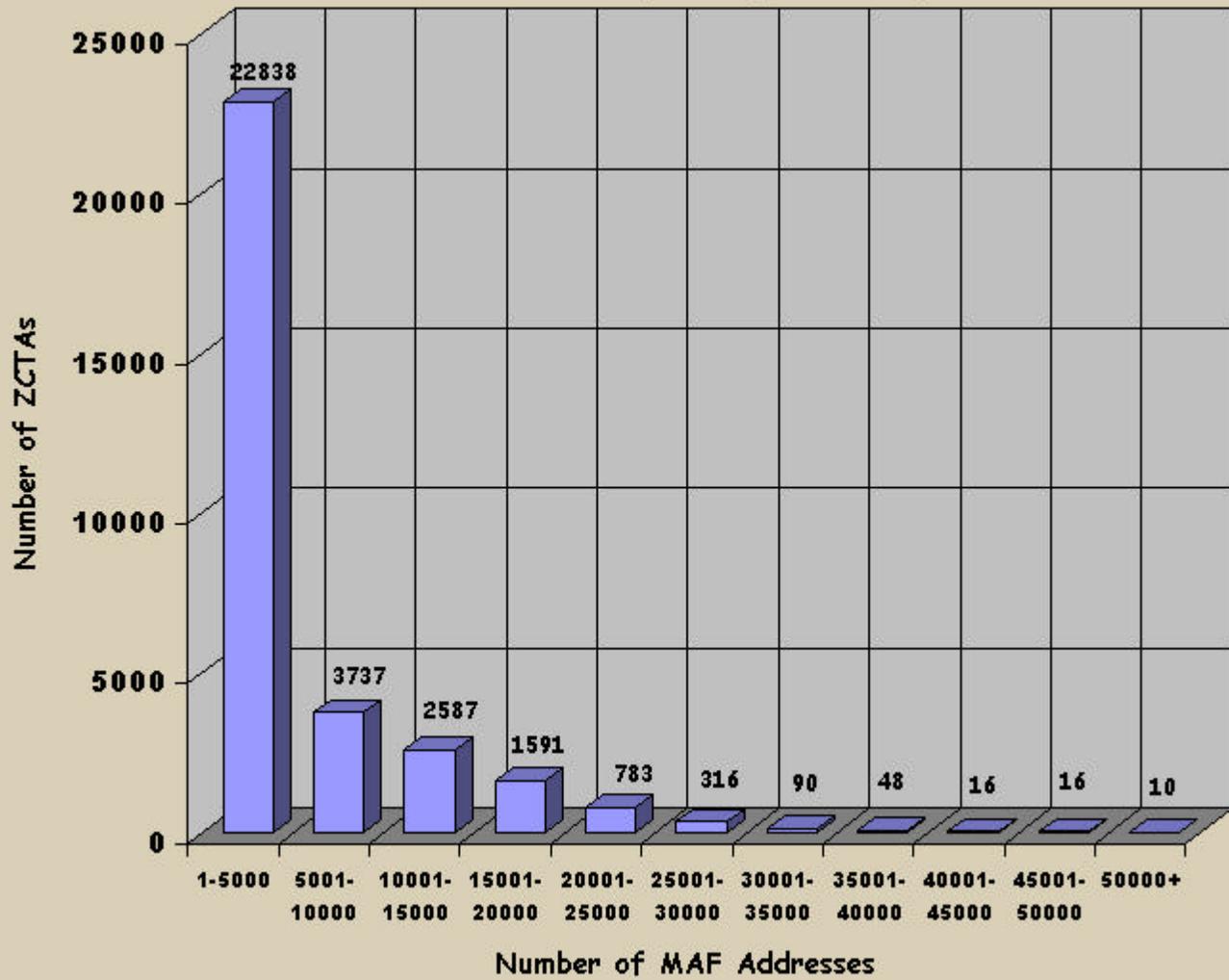
Census 2000 ZCTA Statistics

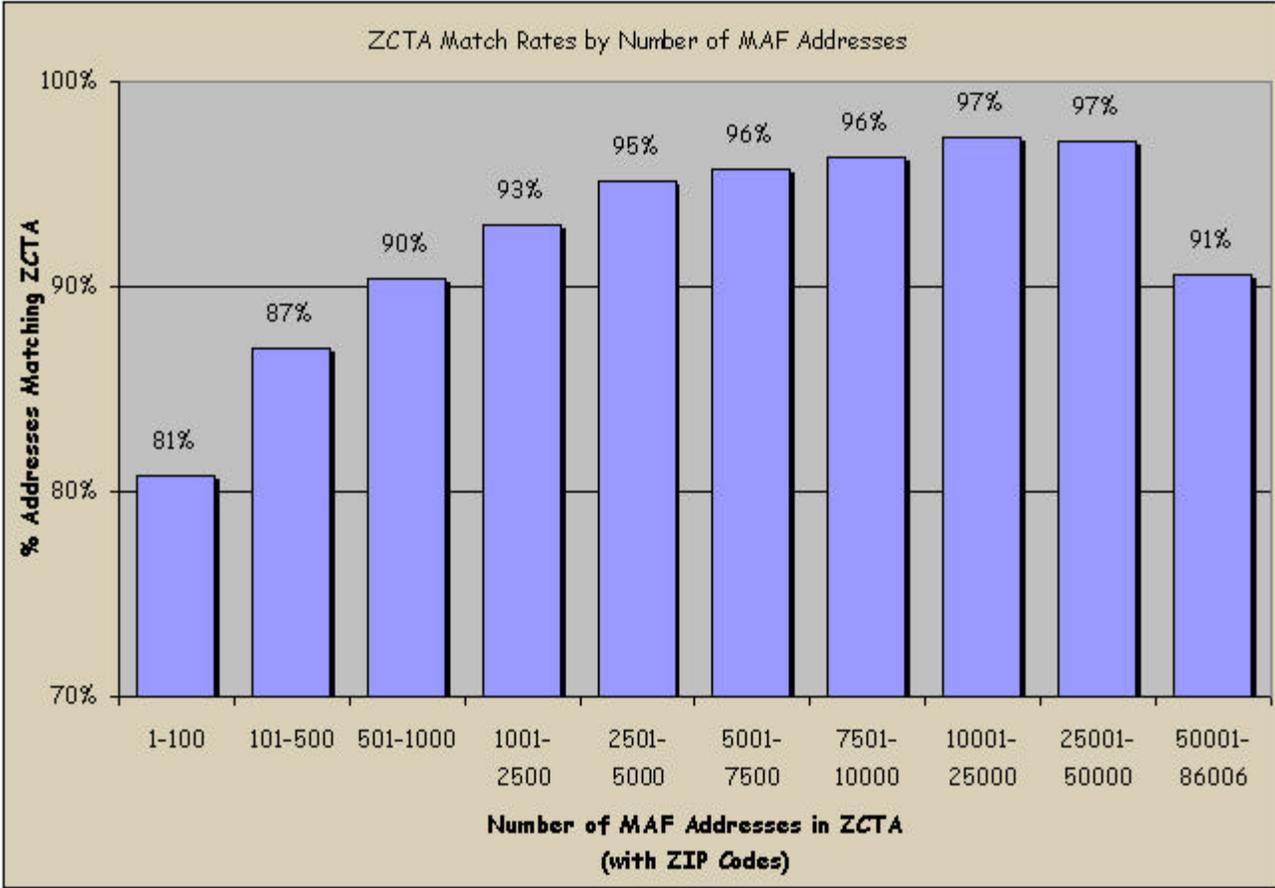
- 5-digit Numeric ZCTAs 32,038
- Water ZCTAs (HH suffix) 809
- Generic (XX suffix) 331

- Total 33,178

ZCTAs by ZIP Code Type

Number of ZCTAs by Size (Addresses)





ZCTA Maintenance

- **Monitor ZIP Code changes from USPS sources (ZIPMOVE file)**
- **Monitor changes in summary statistics**

ZCTA Summary Statistics

- **Create new MAF extract with**
 - Latest ZIP Codes
 - New addresses
- **Match addresses and ZIP Codes to ZCTA assignments block by block**
- **Identify negative changes in match rates**

Products

- **Census 2000 TIGER/Line**
- **American FactFinder**
- **Cartographic Boundary Files**
- **ZCTA reference maps**
- **Summary Files 1 - 4**